Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-48. (Canceled)

49. (Currently amended) A method of identifying a compound that modulates sweet taste signal transduction in taste cells, the method comprising the steps of

(i) contacting the compound with a cell expressing a sweet taste receptor comprising a T1R3 polypeptide and a T1R2 polypeptide, wherein the T1R3 polypeptide is encoded by a nucleotide sequence that hybridizes under highly stringent hybridization conditions to a nucleotide sequence encoding an amino acid sequence of SEQ ID NO:15, 20, 23, or 25; and wherein the T1R2 polypeptide that is encoded by a nucleotide sequence that hybridizes under moderately stringent hybridization conditions to a nucleotide sequence encoding an amino acid sequence of SEQ ID NO:7, 8, or 9; and

(ii) determining the functional effect of the compound upon the receptor, thereby identifying a compound that modulates sweet signal transduction,

wherein the sweet taste receptor specifically binds a sweet compound, at least one of the T1R3 and T1R2 polypeptides is recombinant, and the highly stringent hybridization conditions comprise hybridization in 50% formamide, 5x SSC, and 1% SDS at 42°C, or hybridization in 5x SSC and 1% SDS at 65°C, and a wash in 0.2x SSC, and 0.1% SDS at 65°C.

50. (Previously presented) The method of claim 49, wherein the T1R2 polypeptide and the T1R3 polypeptide are non-covalently linked.

51. (Previously presented) The method of claim 49, wherein the T1R2 polypeptide and the T1R3 polypeptide are covalently linked.

52-54. (Canceled)

55. (Currently amended) A method of identifying a compound that modulates sweet taste signal transduction in taste cells, the method comprising the steps of

(i) contacting the compound with a sweet taste receptor comprising a T1R3 polypeptide and a T1R2 polypeptide,

wherein the T1R3 polypeptide is encoded by a nucleotide sequence that hybridizes under moderately stringent hybridization conditions to a nucleotide sequence encoding an amino acid sequence of SEQ ID NO:15, 20, 23, or 25; and

wherein the ~~heterologous polypeptide is a~~ T1R2 polypeptide is encoded by a nucleotide sequence that hybridizes under moderately stringent hybridization conditions to a nucleotide sequence encoding an amino acid sequence of SEQ ID NO:7, 8, or 9; and

(ii) determining the functional effect of the compound upon the receptor, thereby identifying a compound that modulates sweet signal transduction,

wherein the sweet taste receptor specifically binds a sweet compound, at least one of the T1R3 and T1R2 polypeptides is recombinant, and the moderately stringent hybridization conditions comprise hybridization in 40% formamide, 1 M NaCl, and 1% SDS at 37°C, and a wash in 1X SSC at 45°C.

56. (Currently amended) The method of claim 55, wherein the T1R2 polypeptide is encoded by a nucleotide sequence that hybridizes under highly stringent hybridization conditions to a nucleotide sequence encoding an amino acid sequence of SEQ ID NO:7, 8, or 9, wherein the highly stringent hybridization conditions comprise hybridization in 50% formamide, 5x SSC, and 1% SDS at 42°C, or hybridization in 5x SSC and 1% SDS at 65°C, and a wash in 0.2x SSC, and 0.1% SDS at 65°C.

57. (Currently amended) The method of claim 55, wherein the T1R2 polypeptide has an amino acid sequence of ~~SEQ ID NO:6, 7, or 8~~ SEQ ID NO:7, 8, or 9.

58. (Currently amended) The method of claim 55, wherein the ~~receptor is~~ T1R3 and T1R2 polypeptides are both recombinant.

59. (Previously presented) The method of claim 55, wherein the receptor has G protein coupled receptor activity.

60. (Previously presented) The method of claim 55, wherein the functional effect is measured *in vitro*.

61. (Previously presented) The method of claim 60, wherein the functional effect is a physical effect.

62. (Previously presented) The method of claim 60, wherein the receptor is linked to a solid phase.

63. (Previously presented) The method of claim 60, wherein the functional effect is determined by measuring binding of a compound to the receptor.

64. (Currently amended) The method of claim 63, wherein the functional effect is determined by measuring binding of a compound to ~~the~~ an extracellular domain of the receptor.

65. (Currently amended) The method of claim 55, wherein the receptor is ~~expressed~~ present in a cell or cell membrane.

66. (Previously presented) The method of claim 65, wherein the functional effect is a physical effect.

67. (Previously presented) The method of claim 66, wherein the functional effect is determined by measuring ligand binding to the receptor.

68. (Previously presented) The method of claim 67, wherein the functional effect is determined by measuring binding of a compound to the extracellular domain of the receptor.

69. (Previously presented) The method of claim 65, wherein the functional effect is a chemical or phenotypic effect.

70. (Previously presented) The method of claim 69, wherein the functional effect is determined by measuring changes in intracellular cAMP, IP3, or Ca2+.

71. (Previously presented) The method of claim 65, wherein the cell is a mammalian cell.

72. (Previously presented) The method of claim 71, wherein the cell is a human cell.

73. (Previously presented) The method of claim 55, wherein the T1R2 polypeptide and the T1R3 polypeptide are non-covalently linked.

74. (Previously presented) The method of claim 55, wherein the T1R2 polypeptide and the T1R3 polypeptide are covalently linked.

75. (New) A method of identifying a compound that modulates sweet taste signal transduction in taste cells, the method comprising the steps of

(i) contacting the compound with a cell expressing a sweet taste receptor comprising a T1R3 polypeptide and a T1R2 polypeptide, wherein the T1R3 polypeptide is encoded by a nucleotide sequence that hybridizes under highly stringent hybridization conditions to a nucleotide sequence encoding an amino acid sequence of SEQ ID NO:15; and wherein the T1R2 polypeptide that is encoded by a nucleotide sequence that hybridizes under moderately stringent hybridization conditions to a nucleotide sequence encoding an amino acid sequence of SEQ ID NO:9; and

(ii) determining the functional effect of the compound upon the receptor, thereby identifying a compound that modulates sweet signal transduction,

wherein the sweet taste receptor specifically binds a sweet compound, at least one of the T1R3 and T1R2 polypeptides is recombinant, and the highly stringent hybridization

conditions comprise hybridization in 50% formamide, 5x SSC, and 1% SDS at 42°C, or hybridization in 5x SSC and 1% SDS at 65°C, and a wash in 0.2x SSC, and 0.1% SDS at 65°C.

76. (New) The method of claim 75, wherein the T1R2 polypeptide has the amino acid sequence of SEQ ID NO:9.

77. (New) A method of identifying a compound that modulates sweet taste signal transduction in taste cells, the method comprising the steps of

(i) contacting the compound with a sweet taste receptor comprising a T1R3 polypeptide and a T1R2 polypeptide,

wherein the T1R3 polypeptide is encoded by a nucleotide sequence that hybridizes under highly stringent hybridization conditions to a nucleotide sequence encoding an amino acid sequence of SEQ ID NO:15; and

wherein the T1R2 polypeptide is encoded by a nucleotide sequence that hybridizes under moderately stringent hybridization conditions to a nucleotide sequence encoding an amino acid sequence of SEQ ID NO:9; and

(ii) determining the functional effect of the compound upon the receptor, thereby identifying a compound that modulates sweet signal transduction,

wherein the sweet taste receptor specifically binds a sweet compound, at least one of the T1R3 and T1R2 polypeptides is recombinant, and the highly stringent hybridization conditions comprise hybridization in 50% formamide, 5x SSC, and 1% SDS at 42°C, or hybridization in 5x SSC and 1% SDS at 65°C, and a wash in 0.2x SSC, and 0.1% SDS at 65°C.

78. (New) The method of claim 77, wherein the T1R2 polypeptide has the amino acid sequence of SEQ ID NO:9.